WILLIAM A. MUNDELL
CHAIRMAN
JIM IRVIN
COMMISSIONER
MARC SPITZER
COMMISSIONER

01

ARIZONA CORPORATION COMMISSION

2001 DEC 17 P 4:44

AZ CORP COMMISSION
DOCUMENT CONTROL

December 17, 2001

Chairman William A. Mundell
Commissioner Jim Irvin
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

L-000000B-00-0105

In Re: Decision No. 63611

My Fellow Commissioners:

In Decision No. 63611, the San Tan Expansion Project, the Commission adopted the following condition:

> "36. Due to the plant's location in a non-attainment area, the Applicant shall not use diesel fuel in the operation of any combustion turbine or heat recovery steam generator located at the plant."

On November 29, 2001 Salt River Project (SRP) filed a Significant Permit Revision Application (the Application) with the Maricopa County Environmental Services Division (MCESD). In the Application, SRP proposes to burn 'distillate oil' in the existing generators. MCESD officials inform my Office that 'distillate oil' and 'diesel fuel' are essentially the same.

It appears the SRP Application is inconsistent with Condition 36 to Decision No. 63611. I respectfully request that we add to the Staff Meeting on December 19, 2001, a discussion of what action, if any, the Commission should take in response to the Application.

Very Truly Yours,

Marc Spitzer
Commissioner

Arizona Corporation Commission
DOCKETED
DEC 17 2001
DOCKETED BY

Cc: Lynn Farmer, Hearing Division
Ernest Johnson, Utilities Division
Chris Kempley, Legal Division
Brian McNeil, Executive Secretary
Docket Control

BEFORE THE ARIZONA CORPORATION COMMISSION

WILLIAM A. MUNDELL
Chairman
JIM IRVIN
Commissioner
MARC SPITZER
Commissioner

IN THE MATTER OF THE APPLICATION OF SALT RIVER PROJECT, OR THEIR ASSIGNEE(S), IN CONFORMANCE WITH THE REQUIREMENTS THE ARIZONA REVISED STATUTES 40-360.03 AND 40-360.06 FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AUTHORIZING THE CONSTRUCTION OF NATURAL GAS-FIRED, COMBINED CYCLE GENERATING FACILITIES AND ASSOCIATED INTRAPLANT TRANSMISSION LINES, SWITCHYARD IN GILBERT, ARIZONA, LOCATED NEAR AND WEST OF THE INTERSECTION OF VAL VISTA AND WARNER ROAD	Case No. 105 Docket No. L-00000B-00-0105 Decision No. 63611

The Arizona Corporation Commission (Commission) has conducted its review, as prescribed by A.R.S. § 40-360.07. Pursuant to A.R.S. § 40.360.07(B), the Commission, in compliance with A.R.S. § 40-360.06, and in balancing the broad public interest, the need for an adequate, economical and reliable supply of electric power with the desire to minimize the effect thereof on the environment and ecology of this state;

The Commission finds and concludes that the Certificate of Environmental Compatibility should be granted upon the additional and modified conditions stated herein.

35. The Santan Expansion Project shall be required to meet the Lowest Achievable Emission Rate (LAER) for Carbon Monoxide (CO), Nitrogen Oxides (NO_x), Volatile Organic Compounds (VOCs), and Particulate Matter less than ten micron in aerodynamic diameter (PM_{10}). The Santan Expansion Project shall be required to submit an air quality permit application requesting this LAER to the Maricopa County Environmental Services Department.

36. Due to the plant's location in a non-attainment area, the Applicant shall not use diesel fuel in the operation of any combustion turbine or heat recovery steam generator located at the plant.

37. In obtaining emissions reductions related to Carbon Monoxide (CO) emissions, Applicant shall where technologically feasible obtain those emission reductions onsite to the Santan Expansion Project.

38. Beginning upon commercial operation of the new units, Applicant shall conduct a review of the Santan Generating facility operations and equipment every five years and shall, within 120 days of completing such review, file with the Commission and all parties in this docket, a report listing all improvements which would reduce plant emissions and the costs associated with each potential improvement. Commission Staff shall review the report and issue its findings on the report, which will include an economic feasibility study, to the Commission within 60 days of receipt. Applicant shall install said improvements within 24 months of filing the review with the Commission, absent an order from the Commission directing otherwise.

39. Applicant shall provide $20,000 to the Pipeline Safety Revolving Fund on an annual basis, thus improving the overall safety of pipelines throughout the State of Arizona.

40. Where feasible, Applicant shall strive to incorporate local and in-state contractors in the construction of the three new generation units for the expansion projects.

41. Applicant shall construct a 10 foot high block wall surrounding the perimeter of the Santan plant, and appropriately landscape the area consistent with the surrounding neighborhood, unless otherwise agreed to by the Salt River Project and the Citizens Working Group.

APPROVED AS AMENDED BY ORDER OF THE ARIZONA CORPORATION COMMISSION

Chairman Commissioner Commissioner

IN WITNESS WHEREOF, I, Brian C. McNeil, Executive Secretary of the Arizona Corporation Commission, set my hand and cause the official seal of the Commission to be affixed this 18 day of May, 2001.

By
Brian C. McNeil
Executive Secretary

Dissent: _____

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Email: kgwantta@srpnet.com

November 29, 2001

Mr. Dale Lieb
Maricopa County Environmental Services Department
Air Quality Division
1001 N. Central Avenue, Suite 201
Phoenix, AZ 85004

Re: Significant Permit Revision Application for the Santan Generating Station Expansion

Dear Mr. Lieb:

Salt River Project (SRP) submits the enclosed air quality permit application for the 825 MW expansion project at the Santan Generating Station. Also enclosed is a check in the amount of $10,000 to cover the Significant Permit Revision fee. As you know, this application will continue to be administered under the Maricopa County accelerated permit review process. SRP submitted a check to MCESD on April 30, 2001 in the amount of $10,500 as an initial payment for external consulting services to expedite the permit review process. In order to meet summer 2005 peak power demands, construction of the Santan Expansion Project needs to commence by March 2003. Thus, we are respectfully requesting that MCESD issue the permit revision by February 2002.

SRP has been working with MCESD and its contractor assigned to support the accelerated permit process, LFR, since July 2001. The enclosed permit application incorporates the technical issues and modeling protocols that have been discussed among SRP, MCESD, LFR and the USFS.

SRP appreciates the assistance you have provided on this project thus far, and your continuing efforts to meet the project schedule. Please contact me at (602) 236-2968 if you have any questions pertaining to the application or if I can provide any assistance during your review of the Santan permit application.

Sincerely,

Kevin Wanttaja

Kevin Wanttaja, Manager
Environmental Compliance

cc: Mr. Gerardo Rios, EPA Region IX
File: PRJ 12-2

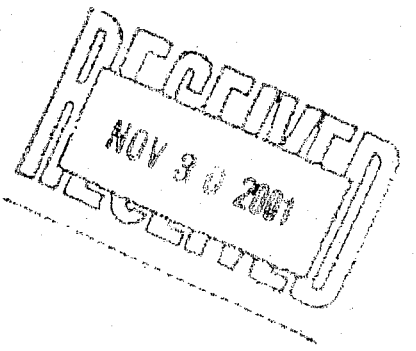
EC 11839.111

APPLICATION

FOR A SIGNIFICANT PERMIT REVISION

SALT RIVER PROJECT - SANTAN GENERATING STATION

PROPOSED EXPANSION PROJECT



Prepared for
Salt River Project

Prepared by
ENVIRON Corporation

November 30, 2001
03-8624C

2.0 Description of Proposed Expansion Project

2.1. Existing Facility Information

The Santan Generating Station is located on 120 acres at 1005 S. Val Vista Drive in the Town of Gilbert, Arizona. Figure 1 shows the general location of the Santan facility site. Currently, the Santan facility consists of the following equipment:

- Electricity generating units:
  Units 1-4: Four General Electric combined cycle, combustion turbine/heat recovery steam generator (HRSG) units, with maximum output of approximately 90 MW each.
- Cooling tower:
  One 101,500 gallons/minute, mechanically-induced-draft, cross-flow cooling tower manufactured by Marley Model 664-3-06.
- Abrasive Blasting Equipment:
  One abrasive blasting building, 12'x18'x12'; totally enclosed; exhausted to a baghouse. Fabric filter baghouse with 20 HP fan, model SQ-100-8.
- Storage Tanks:
  One 500-gallon unleaded gasoline storage tank.
  One 500-gallon diesel fuel storage tank.
  Three 5,500,000 gallons each distillate fuel oil storage tanks.
  One 120-gallon diesel fuel oil storage tank.
- Diesel Fire Pump:
  One Onan Diesel Fire Pump, Cummins Engine, model V8-1681F.
- Solvent Cleaning Equipment:
  Unheated, non-conveyorized, cleaning equipment

SRP is in the process of reducing NOx and CO emissions from the four existing turbines at Santan in order to reduce the net increase in emissions of these pollutants from the proposed expansion. These emission reductions are incorporated in a Title V permit revision for the Santan facility that has been proposed by MCESD.

Since the expansion of the Santan facility represents a major modification for emissions of VOC and PM-10, NNSR is required for each of these pollutants. A demonstration of how the proposed expansion project will comply with the NNSR program for these pollutants is presented in Section 4.

3.3. New Source Performance Standards (NSPS)

The USEPA has developed New Source Performance Standards (NSPS) for specific source categories. These standards are codified in 40 C.F.R. Part 60. The following two NSPS apply to the proposed expansion project:

- Subpart GG: Standard of Performance for Stationary Gas Turbines
- Subpart Db: Standard of Performance for Industrial-Commercial-Institutional Steam Generating Units

A discussion of the basic requirements from these NSPS follows.

3.3.1. Subpart GG – Gas Turbines

The proposed combustion turbines will be subject to the NSPS emission limitations for stationary gas turbines (40 C.F.R. Part 60, Subpart GG). This NSPS is applicable to gas turbines with heat input at peak load equal to or greater than 10.7 gigajoules per hour (GJ/hour) or approximately 10 MMBtu/hour. Subpart GG regulates both NOx and SO_2 emissions.

Subpart GG requires that a gas turbine comply with either a limit on sulfur in the fuel used by the turbine (<0.8 percent by weight) or with an emission concentration of SO_2 (<150 ppmv at 15% O_2 on a dry basis). The new gas turbines will meet both of these requirements. The use of pipeline quality natural gas in the gas turbine will easily satisfy the fuel sulfur requirement. The SO_2 concentration in the exhaust stream will be less than 1 ppmv at 15% O_2.

The NOx limit in Subpart GG is expressed as an equation. The lowest required NOx limit is 75 ppmvd at 15% O_2, which may be raised depending on the turbine manufacturer's rated heat rate at rated peak load. The new gas turbines will achieve NOx emission rates of 2.5 ppmvd at 15% O_2, which will easily satisfy the NSPS.

Tables 27 through 34 list the modeled impacts from the proposed project for operation at each modeled operating load. As seen in these tables, the impacts from the project are insignificant at both operating loads, for all averaging times of all pollutants. Further modeling would not typically be required once the impacts from a project are determined to be insignificant. However, SRP has voluntarily performed an analysis to show that the impacts from the proposed project do not cause a violation of any NAAQS or PSD increment.

For the PSD increment analysis, the impacts from the operation of both the new units and the existing units combined were compared to the USEPA Class II PSD increments. For the new units, the impacts from both the 50% and 100% operating loads were examined. For each pollutant and each averaging time, the operating load that resulted in the highest impact was used in the analysis.

At the request of MCESD, SRP has also prepared an analysis to demonstrate that the Santan facility would comply with the Class II increments and NAAQS even if the existing units were fired on distillate oil. These units run primarily on pipeline quality natural gas. Distillate oil firing in the existing units would typically only occur in the event of an emergency, such as a natural gas curtailment. Although firing on distillate oil is an extremely unlikely scenario, SRP has agreed to perform modeling to show that firing on distillate oil would not cause a violation of any standard.

In this application, SRP proposes to accept a voluntary, facility-wide cap on NOx and CO emissions from the Santan facility. As a result of the NOx cap of 1,339.1 tons/year, the four existing units would only be able to operate up to 2,477 hours per year each when fired on distillate oil before reaching this level of NOx emissions. In order to comply with the cap, the existing units would then be required to shut down for the remainder of the year, and the new units would not be able to operate at all. Therefore, for facility-wide modeling requiring an annual average (i.e., SO_2, PM-10, and NO_2), emissions from the existing units fired on oil were modeled representing operation of these units for 2,477 hours/year each. For short-term averaging times, both new units fired on natural gas and existing units fired on oil were included

in the analysis. For modeling the existing units fired on natural gas, both the existing and new units were assumed to operate continuously for all averaging times. The facility-wide impacts were compared to allowable Class II increment levels. In all cases, the predicted impacts well below the Class II increments. The results of this analysis are found in Tables 35 through 40.

To show compliance with the NAAQS, predicted impacts from the sources at the Santan facility were added to a representative background concentration of each pollutant. The modeled emissions from the new and existing units used in the NAAQS analysis are listed in Tables 20 through 23. The background concentrations used in this analysis can be found in Table 26. For the new units, the impacts from both the 50% and 100% operating loads were examined. For each pollutant and each averaging time, the operating load that resulted in the highest impact was used in the NAAQS analysis.

SRP maintains air quality monitors at the Santan site that record ambient concentrations of ozone, CO, SO_2, NO_2, and PM-10. Figures 12 through 17 show a comparison of concentrations measured at the Santan monitors with those monitored at locations near the Santan facility. The location of the Santan facility relative to each of these nearby monitors can be found in Figure 11. For each monitored pollutant, nearly all of the concentrations measured at the Santan site are below those recorded at nearby locations. Therefore, the total impacts used in the Class II increment and NAAQS analyses are likely overestimated by using higher background concentrations than those monitored at the Santan site in the NAAQS analysis.

The NAAQS analyses performed for this project are very conservative; the actual air quality impacts are likely to be less than those predicted in these analyses. As noted above, the background concentrations used in the NAAQS analyses are higher than those monitored at the Santan site. In spite of this, the modeled impacts from the Santan sources do not cause a violation of any NAAQS when added to these backgrounds. Modeling was also performed for operating scenarios that are highly unlikely, including operation of all three new turbines at 50% load and operation of the existing units on distillate oil for an extended period. Emissions from the new and existing units will be far lower when operated at expected, higher operating loads and when firing on natural gas.

Nitrogen deposition in Class I areas was also insignificant. The highest nitrogen deposition rate was predicted for the Prescott National Forest. In this area, a deposition rate of 0.0012 kg/ha/yr was predicted. This is below the recommended comparison level of 0.01 kg/ha/yr..

Predicted deposition rates are listed in Table 61. As shown by this modeling, deposition of emissions from the Santan project will have an insignificant effect on nearby Class I areas.

6.5.9. Results of the Class I Area Impact Analysis

USEPA has proposed Class I area significance levels for SO_2, PM-10, and NOx[7]. Emissions of these pollutants were modeled and the predicted concentrations were compared to the levels that the USEPA considers significant. For each receptor ring, the receptor with the highest time-averaged concentration increments during the five-year period was chosen to represent the worst-case impact to the Class I area.

As with impacts on Class II areas, the impacts from the proposed new units were modeled for both 50% and 100% operating loads. For each operating load, and for all pollutants and all time-averaging periods for which USEPA has developed Class I significance levels, the incremental impacts from the proposed project on any nearby Class I area were below the EPA's proposed level for being considered significant. Tables 62 through 67 list the USEPA Class I significance levels and the maximum predicted impacts on Class I areas from the Santan expansion project.

Facility-wide impacts from existing and new units on Class I areas were also determined using the same methodology described in Section 6.2 for Class II areas. Modeling of the new units was performed for operation at both 50% and 100% loads. Modeling of the existing units was performed for both natural gas and distillate oil firing. The resulting impacts were then compared to the allowable PSD Class I increments. The results of this analysis can be found in Tables 68 through 73.

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[7] 1991. Calcagni, John, USEPA Memorandum "Class I Area Significant Impact Levels," September 10.

whether the source category in question is included in the list of sources contained in the definition of major source in Rule 100 of these rules.

Potential emissions from this project can be found in Table 9.

b. **The source shall be required to identify and describe all points of emissions and to submit additional information related to the emissions of regulated air pollutants sufficient to verify which requirements are applicable to the source and sufficient to determine any fees pursuant to Rules 280 of these rules.**

A listing of all emission points related to this project and the associated emissions can be found in Tables 7 and 8.

8. **Citation and description of all applicable requirements as defined in Rule 100 of these rules including voluntarily accepted limits to Rule 220 of these rules.**

A description of the major applicable requirements for this project can be found in Sections 3, 4, and 5 of this application. In addition, Appendix B contains a more thorough listing of all applicable requirements that relate to this project.

9. **An explanation of any voluntarily accepted limits established pursuant to Rule 220 of these rules and of any proposed exemptions from otherwise applicable requirements.**

SRP has reduced emissions from existing equipment at the Satntan facility by voluntarily adding pollution control equipment onto previously-uncontrolled equipment. These reductions offset some emissions from proposed new equipment. A description of the net emissions increase for this project can be found in Section 2.4.3 of this application.

10. **The following information to the extent it is needed to determine or regulate emissions or to comply with the requirements of Rule 220 of these rules:**

a. **Maximum annual process rate for each piece of equipment which generates air emissions.**
b. **Maximum annual process rate for the whole plant.**
c. **Maximum rated hourly process rate for each piece of equipment which generates air emissions.**
d. **Maximum rated hourly process rate for the whole plant.**

No process equipment exists or will be installed at this facility, so these requirements are not applicable.

e. **For all fuel burning equipment including generators, a description of fuel use, including the type used, the quantity used per year, the maximum and average quantity used per hour, the percent used for process heat (heat other than for HVAC or domestic hot water), and higher heating value of the fuel. For solid fuels and fuel oils, state the potential sulfur and ash content.**

The turbines proposed as part of this project will be fired exclusively on natural gas. All information related to fuel use can be found in Section 2.2 of this application.

f. A description of all raw materials used and the maximum annual and hourly, monthly, or quarterly quantities of each material used.

This requirement is not applicable to this facility.

g. Anticipated operating schedules:

1. Percent of annual production by season.

Winter:	0 to 50%
Spring:	0 to 50%
Summer:	50 to 100%
Fall:	50 to 100%

2. Days of the week normally in operation.	7 days/week
3. Shifts or hours of the day normally in operation.	24 hours/day
4. Number of days per year in operation.	365 days/year

h. Limitations on source operations and any work practice standards affecting emissions.

This requirement is not applicable to this facility.

i. A demonstration of how the source will meet any limitations accepted voluntarily pursuant to Rule 220 of these rules.

Periodic monitoring designed to ensure compliance with the emissions reductions included as part of this project has already been added to the Title V Operating Permit for the existing units at the Santan facility.

11. A description of all process and control equipment for which permits are required including:

a. Name.
b. Make (if available).
c. Model (if available).
d. Serial number (if available).
e. Date of manufacture (if available).
f. Size/production capacity.
g. Type.

Table 15
Summary of HAP Emissions Estimates for One Existing Turbine (Distillate Oil)
Salt River Project, Santan Expansion
Gilbert, Arizona

Pollutant	AAAQG (Yes/No)	HAP (Yes/No)	Uncontrolled Emission Factor (lbs/MMBtu)	Emission Factor Source	Estimated Uncontrolled Emissions (tons/year)
1,3-Butadiene	Yes	Yes	1.60E-05	AP-42 Stat.Gas Turb. (4/00), Table 3.1-3	6.79E-02
Arsenic	Yes	Yes	1.10E-05	AP-42 Stat.Gas Turb. (4/00), Table 3.1-3	4.67E-02
Benzene	Yes	Yes	5.50E-05	AP-42 Stat.Gas Turb. (4/00), Table 3.1-3	2.33E-01
Benzo(a)anthracene	Yes	No	6.14E-07	CATEF - Distillate Oil Turbines, Mean Em Fctr	2.60E-03
Benzo(a)pyrene	Yes	No	5.99E-07	CATEF - Distillate Oil Turbines, Mean Em Fctr	2.54E-03
Beryllium	Yes	Yes	3.10E-07	AP-42 Stat.Gas Turb. (4/00), Table 3.1-3	1.32E-03
Cadmium	Yes	Yes	4.80E-06	AP-42 Stat.Gas Turb. (4/00), Table 3.1-3	2.04E-02
Chromium VI	Yes	Yes	7.77E-08	CATEF - Distillate Oil Turbines, Mean Em Fctr	3.30E-04
Dibenzo(a,h)anthracene	Yes	No	5.94E-07	CATEF - Distillate Oil Turbines, Mean Em Fctr	2.52E-03
Formaldehyde	Yes	Yes	2.80E-04	AP-42 Stat.Gas Turb. (4/00), Table 3.1-3	1.19E+00
Lead	Yes	Yes	1.40E-05	AP-42 Stat.Gas Turb. (4/00), Table 3.1-3	5.94E-02
Manganese	Yes	Yes	7.90E-04	AP-42 Stat.Gas Turb. (4/00), Table 3.1-3	3.35E+00
Mercury	Yes	Yes	1.20E-06	AP-42 Stat.Gas Turb. (4/00), Table 3.1-3	5.09E-03
Naphthalene	Yes	Yes	3.50E-04	AP-42 Stat.Gas Turb. (4/00), Table 3.1-3	1.49E+00
Nickel	Yes	Yes	4.60E-06	AP-42 Stat.Gas Turb. (4/00), Table 3.1-3	1.95E-02
Selenium	Yes	Yes	2.50E-05	AP-42 Stat.Gas Turb. (4/00), Table 3.1-3	1.06E-01

Notes:

1. AP-42 is an abbreviation for Compilation of Air Pollutant Emission Factors AP-42.
2. CATEF is an abbreviation for California Air Toxics Emission Factors.
3. AP-42 emission factors are more current, and thus chosen between AP-42 and CATEF.
4. Acenaphthene, acenaphthylene, anthracene, benzo(b)fluoranthene, benzo(e)pyrene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, fluoranthene, fluorene, indeno(1,2,3-c,d)pyrene, phenanthrene, pyrene, and total PAH are included in CATEF or AP-42 but were not modeled because thse chemicals are not federal HAPs and do not have AAAQGs.

Heat input of one turbine	969	MMBtu/hr
Distillate Oil 1MMBtu=	139	Mgal

Table 22
Summary of Emission Rates Used in NAAQS Modeling - Existing Units on Distillate Oil
Salt River Project, Santan Expansion
Gilbert, Arizona

Source ID	Source	Operating Load	Emission Rate (g/s)								
			CO	CO	NO_x	PM_{10}	PM_{10}	SO_x	SO_x	SO_x	H_2SO_4
			1-hour	8-hour	Annual	24-hour	Annual	3-hour	24-hour	Annual	24-hour
HRSGNew	New Turbine/HRSG	100%	287.35	-	-	-	-	-	1.12	-	0.034
HRSGNew	New Turbine/HRSG	50%	-	27.09	-	2.90	-	0.76	-	-	-
FirePump	Emergency Fire Pump	-	0.26	0.26	-	0.0037	-	0.016	0.0055	-	0.000164
NNewCT	North New Cooling Tower	-	-	-	-	0.03	-	-	-	-	-
MNewCT	Middle New Cooling Tower	-	-	-	-	0.03	-	-	-	-	-
SNewCT	South New Cooling Tower	-	-	-	-	0.03	-	-	-	-	-
SWTurbin	Southwest Turbine	-	0.13	0.13	34.05	0.46	0.46	1.28	1.28	1.28	0.038
NWTurbin	Northwest Turbine	-	0.13	0.13	34.05	0.46	0.46	1.28	1.28	1.28	0.038
NETurbin	Northeast Turbine	-	0.13	0.13	34.05	0.46	0.46	1.28	1.28	1.28	0.038
SETurbin	Southeast Turbine	-	0.13	0.13	34.05	0.46	0.46	1.28	1.28	1.28	0.038

Notes on new unit emissions:

1. The 1-hour CO emission rate represents emissions from the first hour of a cold startup.
2. The 8-hour CO and 24-hour PM_{10} emission rates include one 2-hour cold start and 6 hours of normal operations
3. The annual PM_{10} emission rate reflects emissions from 225 hours of startup and 7,648 hours of normal operations.
4. Emissions of SO_x show no variability between startup and normal operations, so emissions reflect continuous operations for each averaging period.
5. The 24-hour SO_x rate for the emergency fire pump reflects a maximum of 8 hours of operation per day.
6. Annual emissions from the new equipment are zero since operation of the existing units on distillate oil up to 2,477 hours per turbine per year consumes the entire voluntary, facility-wide NO_x cap.
7. The operating load for the new turbines determined in the significance modeling to cause the greatest impact was used in the NAAQS modeling.

Table 25
Summary of Modeled HAP Emission Rates (with Existing Units on Distillate Oil)
Salt River Project, Santan Expansion
Gilbert, Arizona

Pollutant	Emission Rate (g/s)					
	Gas Turbines	Duct Burners	Existing Turbines Using Distillate Oil	Emergency Fire Pump		
	All Averaging Times	All Averaging Times	All Averaging Times	1-hour	24-hour	Annual
1,3-Butadiene	4.2E-05	-	2.0E-03	3.9E-06	3.9E-06	1.7E-08
2-Methylnaphthalene	5.0E-07	1.9E-07	-	-	-	-
3-Methylchloranthrene	-	1.4E-08	-	-	-	-
Acetaldehyde	3.9E-03	7.0E-05	-	7.6E-05	7.6E-05	3.3E-07
Acrolein	6.2E-04	-	-	9.2E-06	9.2E-06	3.9E-08
Ammonia	2.9E-01	-	-	-	-	-
Arsenic	-	1.6E-06	1.3E-03	-	-	-
Barium	-	3.5E-05	-	-	-	-
Benzaldehyde	-	1.3E-04	-	-	-	-
Benzene	1.2E-03	1.7E-05	6.7E-03	9.3E-05	9.3E-05	4.0E-07
Benzo(a)anthracene	2.2E-06	1.4E-08	7.5E-05	1.7E-07	1.7E-07	7.2E-10
Benzo(a)pyrene	1.3E-06	9.5E-09	7.3E-05	1.9E-08	1.9E-08	8.0E-11
Beryllium	-	9.5E-08	3.8E-05	-	-	-
Cadmium	-	8.7E-06	5.9E-04	-	-	-
Chromium VI	-	1.1E-05	9.5E-06	-	-	-
Cobalt	-	6.6E-07	-	-	-	-
Copper	-	6.7E-06	-	-	-	-
Dibenzo(a,h)anthracene	2.2E-06	9.5E-09	7.2E-05	5.8E-08	5.8E-08	2.5E-10
Dichlorobenzene	-	9.5E-06	-	-	-	-
Ethylbenzene	3.1E-03	-	-	-	-	-
Formaldehyde	6.9E-02	5.9E-04	3.4E-02	1.2E-04	1.2E-04	5.0E-07
Hexane	2.5E-02	1.4E-02	-	-	-	-
Lead	-	-	1.7E-03	-	-	-
Manganese	-	3.0E-06	9.6E-02	-	-	-
Mercury	-	2.1E-06	1.5E-04	-	-	-
Naphthalene	1.3E-04	4.8E-06	4.3E-02	8.4E-06	8.4E-06	3.6E-08
Nickel	-	1.7E-05	5.6E-04	-	-	-
Pentane	6.7E-08	2.1E-02	-	-	-	-
Propane	-	1.3E-02	-	-	-	-
Selenium	-	1.9E-07	3.1E-03	-	-	-
Toluene	1.3E-02	2.7E-05	-	4.1E-05	4.1E-05	1.7E-07
Vanadium	-	1.8E-05	-	-	-	-
Xylene	6.2E-03	-	-	2.8E-05	2.8E-05	1.2E-07

Table 35
Class II Increment Analysis for Proposed Project - NO_2 (Annual)
Salt River Project, Santan Expansion
Gilbert, Arizona

Existing Unit Fuel	Averaging Period	Data Period	Receptor Location (m)		Maximum Predicted Concentration ($\mu g/m^3$)	Class II PSD Increment ($\mu g/m^3$)
		Year	East	North		
Natural Gas	Annual	1994	428,500	3,688,500	4.06	25
Natural Gas	Annual	1995	428,500	3,688,500	4.47	25
Natural Gas	Annual	1996	428,500	3,688,500	3.89	25
Natural Gas	Annual	1997	428,500	3,688,500	3.78	25
Natural Gas	Annual	1998	428,500	3,688,500	4.06	25

Existing Unit Fuel	Averaging Period	Data Period	Receptor Location (m)		Maximum Predicted Concentration ($\mu g/m^3$)	Class II PSD Increment ($\mu g/m^3$)
		Year	East	North		
Distillate Oil	Annual	1994	428,500	3,688,500	5.17	25
Distillate Oil	Annual	1995	428,500	3,688,500	5.81	25
Distillate Oil	Annual	1996	428,500	3,688,500	5.00	25
Distillate Oil	Annual	1997	428,500	3,688,500	4.82	25
Distillate Oil	Annual	1998	428,500	3,688,500	5.16	25

Table 36
Class II Increment Analysis for Proposed Project - PM_{10} (24-hour)
Salt River Project, Santan Expansion
Gilbert, Arizona

Existing Unit Fuel	Averaging Period	Data Period	Receptor Location (m)		Maximum Predicted Concentration ($\mu g/m^3$)	Class II PSD Increment ($\mu g/m^3$)
		Year	East	North		
Distillate Oil	24-Hour	1994	430,503	3,688,085.5	3.56	30
Distillate Oil	24-Hour	1995	430,503	3,688,210.25	4.27	30
Distillate Oil	24-Hour	1996	430,503	3,688,085.5	4.30	30
Distillate Oil	24-Hour	1997	430,503	3,688,235.25	4.69	30
Distillate Oil	24-Hour	1998	430,503	3,688,210.25	4.65	30

Note:

1. This analysis reviewed only distillate oil firing in the existing units since emissions from these units were higher when firing distillate oil than when firing natural gas.

Table 37
Class II Increment Analysis for Proposed Project - PM_{10} (Annual)
Salt River Project, Santan Expansion
Gilbert, Arizona

Existing Unit Fuel	Averaging Period	Data Period	Receptor Location (m)		Maximum Predicted Concentration ($\mu g/m^3$)	Class II PSD Increment ($\mu g/m^3$)
		Year	East	North		
Natural Gas	Annual	1994	428,900	3,688,500	0.58	17
Natural Gas	Annual	1995	428,900	3,688,500	0.64	17
Natural Gas	Annual	1996	428,900	3,688,600	0.55	17
Natural Gas	Annual	1997	428,900	3,688,600	0.57	17
Natural Gas	Annual	1998	428,900	3,688,500	0.59	17

Existing Unit Fuel	Averaging Period	Data Period	Receptor Location (m)		Maximum Predicted Concentration ($\mu g/m^3$)	Class II PSD Increment ($\mu g/m^3$)
		Year	East	North		
Distillate Oil	Annual	1994	428,500	3,688,500	0.071	17
Distillate Oil	Annual	1995	428,500	3,688,500	0.079	17
Distillate Oil	Annual	1996	428,500	3,688,500	0.068	17
Distillate Oil	Annual	1997	428,500	3,688,500	0.066	17
Distillate Oil	Annual	1998	428,500	3,688,500	0.070	17

Table 38
Class II Increment Analysis for Proposed Project - SO_2 (3-hour)
Salt River Project, Santan Expansion
Gilbert, Arizona

Existing Unit Fuel	Averaging Period	Data Period	Receptor Location (m)		Maximum Predicted Concentration ($\mu g/m^3$)	Class II PSD Increment ($\mu g/m^3$)
		Year	East	North		
Distillate Oil	3-Hour	1994	430,503	3,688,085.5	28.34	512
Distillate Oil	3-Hour	1995	430,503	3,688,085.5	29.12	512
Distillate Oil	3-Hour	1996	430,503	3,688,110.5	30.89	512
Distillate Oil	3-Hour	1997	430,503	3,688,085.5	28.40	512
Distillate Oil	3-Hour	1998	430,503	3,688,160.25	28.16	512

Note:

1. This analysis reviewed only distillate oil firing in the existing units since emissions from these units were higher when firing distillate oil than when firing natural gas.

Table 39
Class II Increment Analysis for Proposed Project - SO_2 (24-hour)
Salt River Project, Santan Expansion
Gilbert, Arizona

Existing Unit Fuel	Averaging Period	Data Period	Receptor Location (m)		Maximum Predicted Concentration ($\mu g/m^3$)	Class II PSD Increment ($\mu g/m^3$)
		Year	East	North		
Distillate Oil	24-Hour	1994	430,503	3,688,085.5	9.21	91
Distillate Oil	24-Hour	1995	430,503	3,688,185.25	11.74	91
Distillate Oil	24-Hour	1996	430,503	3,688,085.5	10.75	91
Distillate Oil	24-Hour	1997	430,503	3,688,235.25	12.76	91
Distillate Oil	24-Hour	1998	430,503	3,688,185.25	8.81	91

Note:

1. This analysis reviewed only distillate oil firing in the existing units since emissions from these units were higher when firing distillate oil than when firing natural gas.

Table 40
Class II Increment Analysis for Proposed Project - SO_2 (Annual)
Salt River Project, Santan Expansion
Gilbert, Arizona

Existing Unit Fuel	Averaging Period	Data Period	Receptor Location (m)		Maximum Predicted Concentration ($\mu g/m^3$)	Class II PSD Increment ($\mu g/m^3$)
		Year	East	North		
Natural Gas	Annual	1994	428,500	3,688,500	0.17	20
Natural Gas	Annual	1995	428,900	3,688,600	0.18	20
Natural Gas	Annual	1996	428,500	3,688,500	0.16	20
Natural Gas	Annual	1997	428,900	3,688,600	0.16	20
Natural Gas	Annual	1998	428,900	3,688,500	0.17	20

Existing Unit Fuel	Averaging Period	Data Period	Receptor Location (m)		Maximum Predicted Concentration ($\mu g/m^3$)	Class II PSD Increment ($\mu g/m^3$)
		Year	East	North		
Distillate Oil	Annual	1994	428,500	3,688,500	0.19	20
Distillate Oil	Annual	1995	428,500	3,688,500	0.21	20
Distillate Oil	Annual	1996	430,503	3,688,135.25	0.18	20
Distillate Oil	Annual	1997	428,500	3,688,500	0.18	20
Distillate Oil	Annual	1998	428,500	3,688,500	0.19	20

Table 43
NAAQS Analysis - NO_2 (Annual)
Salt River Project, Santan Expansion
Gilbert, Arizona

Existing Unit Fuel	Averaging Period	Data Period	Receptor Location (m)		Maximum Predicted Concentration ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$)	Combined Concentration ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)
		Year	East	North				
Natural Gas	Annual	1994	428,500	3,688,500	4.06	64.0	68.0	100
Natural Gas	Annual	1995	428,500	3,688,500	4.47	64.0	68.4	100
Natural Gas	Annual	1996	428,500	3,688,500	3.89	64.0	67.8	100
Natural Gas	Annual	1997	428,500	3,688,500	3.78	64.0	67.7	100
Natural Gas	Annual	1998	428,500	3,688,500	4.06	64.0	68.0	100

Existing Unit Fuel	Averaging Period	Data Period	Receptor Location (m)		Maximum Predicted Concentration ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$)	Combined Concentration ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)
		Year	East	North				
Distillate Oil	Annual	1994	428,500	3,688,500	5.17	64.0	69.1	100
Distillate Oil	Annual	1995	428,500	3,688,500	5.81	64.0	69.8	100
Distillate Oil	Annual	1996	428,500	3,688,500	5.00	64.0	69.0	100
Distillate Oil	Annual	1997	428,500	3,688,500	4.82	64.0	68.8	100
Distillate Oil	Annual	1998	428,500	3,688,500	5.16	64.0	69.1	100

Note:

1. NAAQS compliance would be ensured even with a limited number of exceedances. This analysis, however, shows no exceedances of the NAAQS in any year.
2. The background data used in this analysis is conservative for the Santan site. Ambient air monitoring data collected at the Santan site showed lower concentrations than those used to show NAAQS compliance here.

Table 44
NAAQS Analysis - PM_{10} (24-hour)
Salt River Project, Santan Expansion
Gilbert, Arizona

Existing Unit Fuel	Averaging Period	Data Period	Receptor Location (m)		Maximum Predicted Concentration ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$)	Combined Concentration ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)
		Year	East	North				
Distillate Oil	24-Hour	1994	430,503	3,688,085.5	3.56	128	132	150
Distillate Oil	24-Hour	1995	430,503	3,688,210.25	4.27	128	132	150
Distillate Oil	24-Hour	1996	430,503	3,688,085.5	4.30	128	132	150
Distillate Oil	24-Hour	1997	430,503	3,688,235.25	4.69	128	133	150
Distillate Oil	24-Hour	1998	430,503	3,688,210.25	4.65	128	133	150

Note:

1. NAAQS compliance would be ensured even with a limited number of exceedances. This analysis, however, shows no exceedances of the NAAQS in any year.
2. The background data used in this analysis is conservative for the Santan site. Ambient air monitoring data collected at the Santan site showed lower concentrations than those used to show NAAQS compliance here.
3. This analysis reviewed only distillate oil firing in the existing units since emissions from these units were higher when firing distillate oil than when firing natural gas.

Table 45
NAAQS Analysis - PM_{10} (Annual)
Salt River Project, Santan Expansion
Gilbert, Arizona

Existing Unit Fuel	Averaging Period	Data Period	Receptor Location (m)		Maximum Predicted Concentration ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$)	Combined Concentration ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)
		Year	East	North				
Natural Gas	Annual	1994	428,900	3,688,500	0.58	49.1	49.7	50
Natural Gas	Annual	1995	428,900	3,688,500	0.64	49.1	49.7	50
Natural Gas	Annual	1996	428,900	3,688,600	0.55	49.1	49.6	50
Natural Gas	Annual	1997	428,900	3,688,600	0.57	49.1	49.7	50
Natural Gas	Annual	1998	428,900	3,688,500	0.59	49.1	49.7	50

Existing Unit Fuel	Averaging Period	Data Period	Receptor Location (m)		Maximum Predicted Concentration ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$)	Combined Concentration ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)
		Year	East	North				
Distillate Oil	Annual	1994	428,500	3,688,500	0.071	49.1	49.2	50
Distillate Oil	Annual	1995	428,500	3,688,500	0.079	49.1	49.2	50
Distillate Oil	Annual	1996	428,500	3,688,500	0.068	49.1	49.2	50
Distillate Oil	Annual	1997	428,500	3,688,500	0.066	49.1	49.2	50
Distillate Oil	Annual	1998	428,500	3,688,500	0.070	49.1	49.2	50

Note:

1. NAAQS compliance would be ensured even with a limited number of exceedances. This analysis, however, shows no exceedances of the NAAQS in any year.
2. The background data used in this analysis is conservative for the Santan site. Ambient air monitoring data collected at the Santan site showed lower concentrations than those used to show NAAQS compliance here.

Table 46
NAAQS Analysis - SO_2 (3-hour)
Salt River Project, Santan Expansion
Gilbert, Arizona

Existing Unit Fuel	Averaging Period	Data Period	Receptor Location (m)		Maximum Predicted Concentration ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$)	Combined Concentration ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)
		Year	East	North				
Distillate Oil	3-Hour	1994	430,503	3,688,085.5	28.34	96.8	125.2	1,300
Distillate Oil	3-Hour	1995	430,503	3,688,085.5	29.12	96.8	126.0	1,300
Distillate Oil	3-Hour	1996	430,503	3,688,110.5	30.89	96.8	127.7	1,300
Distillate Oil	3-Hour	1997	430,503	3,688,085.5	28.40	96.8	125.2	1,300
Distillate Oil	3-Hour	1998	430,503	3,688,160.25	28.16	96.8	125.0	1,300

Note:

1. NAAQS compliance would be ensured even with a limited number of exceedances. This analysis, however, shows no exceedances of the NAAQS in any year.
2. This analysis reviewed only distillate oil firing in the existing units since emissions from these units were higher when firing distillate oil than when firing natural gas.

Table 47
NAAQS Analysis - SO_2 (24-hour)
Salt River Project, Santan Expansion
Gilbert, Arizona

Existing Unit Fuel	Averaging Period	Data Period	Receptor Location (m)		Maximum Predicted Concentration ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$)	Combined Concentration ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)
		Year	East	North				
Distillate Oil	24-Hour	1994	430,503	3,688,085.5	9.21	44.5	53.7	365
Distillate Oil	24-Hour	1995	430,503	3,688,185.25	11.74	44.5	56.2	365
Distillate Oil	24-Hour	1996	430,503	3,688,085.5	10.75	44.5	55.2	365
Distillate Oil	24-Hour	1997	430,503	3,688,235.25	12.76	44.5	57.3	365
Distillate Oil	24-Hour	1998	430,503	3,688,185.25	8.81	44.5	53.3	365

Note:

1. NAAQS compliance would be ensured even with a limited number of exceedances. This analysis, however, shows no exceedances of the NAAQS in any year.
2. This analysis reviewed only distillate oil firing in the existing units since emissions from these units were higher when firing distillate oil than when firing natural gas.

Table 48
NAAQS Analysis - SO_2 (Annual)
Salt River Project, Santan Expansion
Gilbert, Arizona

Existing Unit Fuel	Averaging Period	Data Period	Receptor Location (m)		Maximum Predicted Concentration ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$)	Combined Concentration ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)
		Year	East	North				
Natural Gas	Annual	1994	428,500	3,688,500	0.17	20.9	21.1	80
Natural Gas	Annual	1995	428,900	3,688,600	0.18	20.9	21.1	80
Natural Gas	Annual	1996	428,500	3,688,500	0.16	20.9	21.1	80
Natural Gas	Annual	1997	428,900	3,688,600	0.16	20.9	21.1	80
Natural Gas	Annual	1998	428,900	3,688,500	0.17	20.9	21.1	80

Existing Unit Fuel	Averaging Period	Data Period	Receptor Location (m)		Maximum Predicted Concentration ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$)	Combined Concentration ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)
		Year	East	North				
Distillate Oil	Annual	1994	428,500	3,688,500	0.19	20.9	21.1	80
Distillate Oil	Annual	1995	428,500	3,688,500	0.21	20.9	21.1	80
Distillate Oil	Annual	1996	430,503	3,688,135.25	0.18	20.9	21.1	80
Distillate Oil	Annual	1997	428,500	3,688,500	0.18	20.9	21.1	80
Distillate Oil	Annual	1998	428,500	3,688,500	0.19	20.9	21.1	80

Note:

1. NAAQS compliance would be ensured even with a limited number of exceedances. This analysis, however, shows no exceedances of the NAAQS in any year.

Table 54
HAP Impacts As Compared to AAAQGs, Existing Units on Distillate Oil (1-hour)
Salt River Project, Santan Expansion
Gilbert, Arizona

Pollutant	New Turbines and Duct Burners χ/Q ((μg/m³)/(g/s))	Fire Pump χ/Q ((μg/m³)/(g/s))	Existing Turbines χ/Q ((μg/m³)/(g/s))	Impacts from New Units (μg/m³)	Impacts from Existing Turbines Using Distillate Oil (μg/m³)	Facilty-wide Impacts (μg/m³)	1-Hour AAAQG (μg/m³)	Predicted Impacts Exceed AAAQG?
1,3-Butadiene	3.71E+00	1.42E+03	3.92E+01	5.69E-03	7.66E-02	8.23E-02	5.00E+00	No
Acetaldehyde	3.71E+00	1.42E+03	-	1.23E-01	-	1.23E-01	6.30E+02	No
Acrolein	3.71E+00	1.42E+03	-	1.54E-02	-	1.54E-02	6.30E+00	No
Ammonia	3.71E+00	-	-	1.06E+00	-	1.06E+00	2.30E+02	No
Arsenic	3.71E+00	-	3.92E+01	5.86E-06	5.27E-02	5.27E-02	6.00E-02	No
Barium	3.71E+00	-	-	1.29E-04	-	1.29E-04	1.50E+01	No
Benzaldehyde	3.71E+00	-	-	4.81E-04	-	4.81E-04	8.30E+01	No
Benzene	3.71E+00	1.42E+03	3.92E+01	1.37E-01	2.63E-01	4.00E-01	1.70E+02	No
Benzo(a)anthracene	3.71E+00	1.42E+03	3.92E+01	2.46E-04	2.94E-03	3.18E-03	6.00E+00	No
Benzo(a)pyrene	3.71E+00	1.42E+03	3.92E+01	3.16E-05	2.87E-03	2.90E-03	6.70E-01	No
Beryllium	3.71E+00	-	3.92E+01	3.52E-07	1.48E-03	1.49E-03	6.00E-02	No
Cadmium	3.71E+00	-	3.92E+01	3.22E-05	2.30E-02	2.30E-02	7.70E-01	No
Chromium VI	3.71E+00	-	3.92E+01	4.10E-05	3.72E-04	4.13E-04	1.70E-02	No
Copper	3.71E+00	-	-	2.49E-05	-	2.49E-05	3.00E+00	No
Dibenzo(a,h)anthracene	3.71E+00	1.42E+03	3.92E+01	9.09E-05	2.84E-03	2.93E-03	6.70E-01	No
Dichlorobenzene	3.71E+00	-	-	3.52E-05	-	3.52E-05	2.00E+02	No
Ethylbenzene	3.71E+00	-	-	1.15E-02	-	1.15E-02	4.50E+03	No
Formaldehyde	3.71E+00	1.42E+03	3.92E+01	4.25E-01	1.34E+00	1.77E+00	2.50E+01	No
Hexane	3.71E+00	-	-	1.44E-01	-	1.44E-01	5.40E+03	No
Lead	-	-	3.92E+01	-	6.70E-02	6.70E-02	NAAQS	No
Manganese	3.71E+00	-	3.92E+01	1.11E-05	3.78E+00	3.78E+00	2.50E+01	No
Mercury	3.71E+00	-	3.92E+01	7.62E-06	5.75E-03	5.75E-03	1.50E+00	No
Naphthalene	3.71E+00	1.42E+03	3.92E+01	1.25E-02	1.68E+00	1.69E+00	6.30E+02	No
Nickel	3.71E+00	-	3.92E+01	6.15E-05	2.20E-02	2.21E-02	4.50E-01	No
Pentane	3.71E+00	-	-	7.62E-02	-	7.62E-02	1.90E+04	No
Propane	3.71E+00	-	-	4.69E-02	-	4.69E-02	5.40E+04	No
Selenium	3.71E+00	-	3.92E+01	7.03E-07	1.20E-01	1.20E-01	6.00E+00	No
Toluene	3.71E+00	1.42E+03	-	1.05E-01	-	1.05E-01	4.40E+03	No
Vanadium	3.71E+00	-	-	6.74E-05	-	6.74E-05	1.50E+00	No
Xylene	3.71E+00	1.42E+03	-	6.35E-02	-	6.35E-02	5.40E+03	No

1. Hazardous air pollutant impacts were evaluated at the maximum point of impact for each source regardless of whether these concentrations occur at the same point or the same time. Impacts were evaluated for the maximum 1-hour concentration over the five years modeled. This results in a conservative estimate of impacts from facility sources.

Table 55
HAP Impacts As Compared to AAAQGs, Existing Units on Distillate Oil (24-hour)
Salt River Project, Santan Expansion
Gilbert, Arizona

Pollutant	New Turbines and Duct Burners χ/Q ((μg/m³)/(g/s))	Fire Pump χ/Q ((μg/m³)/(g/s))	Existing Turbines χ/Q ((μg/m³)/(g/s))	Impacts from New Units (μg/m³)	Impacts from Existing Turbines Using Distillate Oil (μg/m³)	Facilty-wide Impacts (μg/m³)	24-hour AAAQG (μg/m³)	Predicted Impacts Exceed AAAQG?
1,3-Butadiene	8.27E-01	3.89E+02	9.97E+00	1.55E-03	1.95E-02	2.10E-02	1.30E+00	No
Acetaldehyde	8.27E-01	3.89E+02	9.97E+00	3.30E-02	-	3.30E-02	1.70E+02	No
Acrolein	8.27E-01	3.89E+02	9.97E+00	4.10E-03	-	4.10E-03	2.00E+00	No
Ammonia	8.27E-01	-	9.97E+00	2.36E-01	-	2.36E-01	1.40E+02	No
Arsenic	8.27E-01	-	9.97E+00	1.30E-06	1.34E-02	1.34E-02	1.60E-02	No
Barium	8.27E-01	-	-	2.87E-05	-	2.87E-05	4.00E+00	No
Benzaldehyde	8.27E-01	-	-	1.07E-04	-	1.07E-04	4.00E+01	No
Benzene	8.27E-01	3.89E+02	9.97E+00	3.71E-02	6.70E-02	1.04E-01	4.40E+01	No
Benzo(a)anthracene	8.27E-01	3.89E+02	9.97E+00	6.68E-05	7.47E-04	8.14E-04	1.60E+00	No
Benzo(a)pyrene	8.27E-01	3.89E+02	9.97E+00	8.38E-06	7.30E-04	7.38E-04	1.80E-01	No
Beryllium	8.27E-01	-	9.97E+00	7.83E-08	3.78E-04	3.78E-04	1.60E-02	No
Cadmium	8.27E-01	-	9.97E+00	7.18E-06	5.85E-03	5.85E-03	2.00E-01	No
Chromium VI	8.27E-01	-	9.97E+00	9.13E-06	9.46E-05	1.04E-04	4.40E-03	No
Copper	8.27E-01	-	-	5.55E-06	-	5.55E-06	7.90E-01	No
Dibenzo(a,h)anthracene	8.27E-01	3.89E+02	9.97E+00	2.44E-05	7.23E-04	7.47E-04	1.80E-01	No
Dichlorobenzene	8.27E-01	-	-	7.83E-06	-	7.83E-06	5.30E+01	No
Ethylbenzene	8.27E-01	-	-	2.57E-03	-	2.57E-03	3.50E+03	No
Formaldehyde	8.27E-01	3.89E+02	9.97E+00	1.03E-01	3.41E-01	4.44E-01	1.60E+01	No
Hexane	8.27E-01	-	-	3.21E-02	-	3.21E-02	1.40E+03	No
Lead	-	-	9.97E+00	-	1.71E-02	1.71E-02	NAAQS	No
Manganese	8.27E-01	-	9.97E+00	2.48E-06	9.62E-01	9.62E-01	7.90E+00	No
Mercury	8.27E-01	-	9.97E+00	1.70E-06	1.46E-03	1.46E-03	4.00E-01	No
Naphthalene	8.27E-01	3.89E+02	9.97E+00	3.39E-03	4.26E-01	4.30E-01	4.00E+02	No
Nickel	8.27E-01	-	9.97E+00	1.37E-05	5.60E-03	5.62E-03	1.20E-01	No
Pentane	8.27E-01	-	-	1.70E-02	-	1.70E-02	1.40E+04	No
Propane	8.27E-01	-	-	1.04E-02	-	1.04E-02	1.40E+04	No
Selenium	8.27E-01	-	9.97E+00	1.57E-07	3.04E-02	3.04E-02	1.60E+00	No
Toluene	8.27E-01	3.89E+02	-	2.63E-02	-	2.63E-02	3.00E+03	No
Vanadium	8.27E-01	-	-	1.50E-05	-	1.50E-05	4.00E-01	No
Xylene	8.27E-01	3.89E+02	-	1.62E-02	-	1.62E-02	3.50E+03	No

1. Hazardous air pollutant impacts were evaluated at the maximum point of impact for each source regardless of whether these concentrations occur at the same point or the same time. Impacts were evaluated for the maximum 24-hour concentration over the five years modeled. This results in a conservative estimate of impacts from facility sources.

Table 56
HAP Impacts As Compared to AAAQGs, Existing Units on Distillate Oil (Annual)
Salt River Project, Santan Expansion
Gilbert, Arizona

Pollutant	New Turbines and Duct Burners χ/Q ((μg/m³)/(g/s))	Fire Pump χ/Q ((μg/m³)/(g/s))	Existing Turbines χ/Q ((μg/m³)/(g/s))	Impacts from New Units (μg/m³)	Impacts from Existing Turbines Using Distillate Oil (μg/m³)	Facilty-wide Impacts (μg/m³)	Annual AAAQG (μg/m³)	Predicted Impacts Exceed AAAQG?
1,3-Butadiene	2.34E-02	9.00E+01	4.16E-01	2.48E-06	2.30E-04	2.35E-04	3.60E-03	No
Acetaldehyde	2.34E-02	9.00E+01	-	1.22E-04	-	1.22E-04	4.50E-01	No
Acrolein	2.34E-02	9.00E+01	-	1.81E-05	-	1.81E-05	--	--
Ammonia	2.34E-02	-	-	6.70E-03	-	6.70E-03	--	--
Arsenic	2.34E-02	-	4.16E-01	3.70E-08	1.58E-04	1.58E-04	2.30E-04	No
Barium	2.34E-02	-	-	8.14E-07	-	8.14E-07	--	--
Benzaldehyde	2.34E-02	-	-	3.03E-06	-	3.03E-06	--	--
Benzene	2.34E-02	9.00E+01	4.16E-01	6.35E-05	7.91E-04	8.54E-04	1.20E-01	No
Benzo(a)anthracene	2.34E-02	9.00E+01	4.16E-01	1.15E-07	8.82E-06	8.94E-06	4.80E-03	No
Benzo(a)pyrene	2.34E-02	9.00E+01	4.16E-01	3.85E-08	8.62E-06	8.65E-06	4.80E-04	No
Beryllium	2.34E-02	-	4.16E-01	2.22E-09	4.46E-06	4.46E-06	4.20E-04	No
Cadmium	2.34E-02	-	4.16E-01	2.03E-07	6.90E-05	6.92E-05	5.60E-04	No
Chromium VI	2.34E-02	-	4.16E-01	2.59E-07	1.12E-06	1.38E-06	1.20E-05	No
Copper	2.34E-02	-	-	1.57E-07	-	1.57E-07	--	--
Dibenzo(a,h)anthracene	2.34E-02	9.00E+01	4.16E-01	7.50E-08	8.53E-06	8.61E-06	4.80E-04	No
Dichlorobenzene	2.34E-02	-	-	2.22E-07	-	2.22E-07	1.50E-01	No
Ethylbenzene	2.34E-02	-	-	7.29E-05	-	7.29E-05	--	--
Formaldehyde	2.34E-02	9.00E+01	4.16E-01	1.68E-03	4.03E-03	5.70E-03	7.60E-02	No
Hexane	2.34E-02	-	-	9.11E-04	-	9.11E-04	--	--
Lead	-	-	4.16E-01	-	2.01E-04	2.01E-04	--	--
Manganese	2.34E-02	-	4.16E-01	7.03E-08	1.14E-02	1.14E-02	--	--
Mercury	2.34E-02	-	4.16E-01	4.81E-08	1.73E-05	1.73E-05	--	--
Naphthalene	2.34E-02	9.00E+01	4.16E-01	6.32E-06	5.03E-03	5.04E-03	--	--
Nickel	2.34E-02	-	4.16E-01	3.88E-07	6.61E-05	6.65E-05	2.10E-03	No
Pentane	2.34E-02	-	-	4.81E-04	-	4.81E-04	--	--
Propane	2.34E-02	-	-	2.96E-04	-	2.96E-04	--	--
Selenium	2.34E-02	-	4.16E-01	4.44E-09	3.59E-04	3.59E-04	--	--
Toluene	2.34E-02	9.00E+01	-	3.12E-04	-	3.12E-04	--	--
Vanadium	2.34E-02	-	-	4.25E-07	-	4.25E-07	--	--
Xylene	2.34E-02	9.00E+01	-	1.57E-04	-	1.57E-04	--	--

1. Hazardous air pollutant impacts were evaluated at the maximum point of impact for each source regardless of whether these concentrations occur at the same point or the same time. This results in a conservative estimate of impacts from facility sources. Annual average concentrations were averaged over the five years modeled.
2. The existing units can only be fired on distillate oil up to 2,477 hours per turbine per year before the facility-wide NO_x cap is reached.

Table 68
Class I Increment Analysis for Proposed Project - NO_2 (Annual)
Salt River Project, Santan Expansion
Gilbert, Arizona

Existing Unit Fuel	Averaging Period	Data Period	Receptor Location (m)		Maximum Predicted Concentration ($\mu g/m^3$)	Class I PSD Increment ($\mu g/m^3$)
		Year	East	North		
Natural Gas	Annual	1994	459,000	3,695,000	0.077	2.5
Natural Gas	Annual	1995	459,000	3,695,000	0.076	2.5
Natural Gas	Annual	1996	457,000	3,696,000	0.087	2.5
Natural Gas	Annual	1997	459,000	3,695,000	0.078	2.5
Natural Gas	Annual	1998	459,000	3,695,000	0.081	2.5

Existing Unit Fuel	Averaging Period	Data Period	Receptor Location (m)		Maximum Predicted Concentration ($\mu g/m^3$)	Class I PSD Increment ($\mu g/m^3$)
		Year	East	North		
Distillate Oil	Annual	1994	459,000	3,695,000	0.36	2.5
Distillate Oil	Annual	1995	459,000	3,695,000	0.36	2.5
Distillate Oil	Annual	1996	457,000	3,696,000	0.41	2.5
Distillate Oil	Annual	1997	459,000	3,695,000	0.36	2.5
Distillate Oil	Annual	1998	459,000	3,695,000	0.38	2.5

Table 69
Class I Increment Analysis for Proposed Project - PM_{10} (24-hour)
Salt River Project, Santan Expansion
Gilbert, Arizona

Existing Unit Fuel	Averaging Period	Data Period	Receptor Location (m)		Maximum Predicted Concentration ($\mu g/m^3$)	Class I PSD Increment ($\mu g/m^3$)
		Year	East	North		
Distillate Oil	24-Hour	1994	457,000	3,696,500	0.089	8
Distillate Oil	24-Hour	1995	457,000	3,696,500	0.085	8
Distillate Oil	24-Hour	1996	457,000	3,696,000	0.095	8
Distillate Oil	24-Hour	1997	462,500	3,707,000	0.075	8
Distillate Oil	24-Hour	1998	459,000	3,695,000	0.088	8

Note:

1. Maximum predicated concentrations were modeled for the existing units operating on distillate oil since this results in higher concentrations than natural gas.

Table 70
Class I Increment Analysis for Proposed Project - PM_{10} (Annual)
Salt River Project, Santan Expansion
Gilbert, Arizona

Existing Unit Fuel	Averaging Period	Data Period	Receptor Location (m)		Maximum Predicted Concentration ($\mu g/m^3$)	Class I PSD Increment ($\mu g/m^3$)
		Year	East	North		
Natural Gas	Annual	1994	459,000	3,695,000	0.0089	4
Natural Gas	Annual	1995	459,000	3,695,000	0.0090	4
Natural Gas	Annual	1996	457,000	3,696,000	0.0099	4
Natural Gas	Annual	1997	457,000	3,696,000	0.0090	4
Natural Gas	Annual	1998	459,000	3,695,000	0.0092	4

Existing Unit Fuel	Averaging Period	Data Period	Receptor Location (m)		Maximum Predicted Concentration ($\mu g/m^3$)	Class I PSD Increment ($\mu g/m^3$)
		Year	East	North		
Distillate Oil	Annual	1994	459,000	3,695,000	0.0049	4
Distillate Oil	Annual	1995	459,000	3,695,000	0.0049	4
Distillate Oil	Annual	1996	457,000	3,696,000	0.0056	4
Distillate Oil	Annual	1997	459,000	3,695,000	0.0050	4
Distillate Oil	Annual	1998	459,000	3,695,000	0.0052	4

Table 71
Class I Increment Analysis for Proposed Project - SO_2 (3-hour)
Salt River Project, Santan Expansion
Gilbert, Arizona

Existing Unit Fuel	Averaging Period	Data Period	Receptor Location (m)		Maximum Predicted Concentration ($\mu g/m^3$)	Class I PSD Increment ($\mu g/m^3$)
		Year	East	North		
Distillate Oil	3-Hour	1994	459,000	3,695,000	0.22	25
Distillate Oil	3-Hour	1995	457,000	3,697,500	0.21	25
Distillate Oil	3-Hour	1996	457,000	3,698,000	0.29	25
Distillate Oil	3-Hour	1997	462,500	3,707,000	0.41	25
Distillate Oil	3-Hour	1998	457,000	3,696,000	0.23	25

Note:

1. Maximum predicated concentrations were modeled for the existing units operating on distillate oil since this results in higher concentrations than natural gas.

Table 72
Class I Increment Analysis for Proposed Project - SO_2 (24-hour)
Salt River Project, Santan Expansion
Gilbert, Arizona

Existing Unit Fuel	Averaging Period	Data Period	Receptor Location (m)		Maximum Predicted Concentration ($\mu g/m^3$)	Class I PSD Increment ($\mu g/m^3$)
		Year	East	North		
Distillate Oil	24-Hour	1994	457,000	3,697,000	0.079	5
Distillate Oil	24-Hour	1995	457,000	3,696,500	0.076	5
Distillate Oil	24-Hour	1996	457,000	3,696,000	0.087	5
Distillate Oil	24-Hour	1997	462,500	3,707,000	0.11	5
Distillate Oil	24-Hour	1998	457,000	3,696,000	0.076	5

Note:

1. Maximum predicated concentrations were modeled for the existing units operating on distillate oil since this results in higher concentrations than natural gas.

Table 73
Class I Increment Analysis for Proposed Project - SO_2 (Annual)
Salt River Project, Santan Expansion
Gilbert, Arizona

Existing Unit Fuel	Averaging Period	Data Period	Receptor Location (m)		Maximum Predicted Concentration ($\mu g/m^3$)	Class I PSD Increment ($\mu g/m^3$)
		Year	East	North		
Natural Gas	Annual	1994	457,000	3,696,000	0.0020	2
Natural Gas	Annual	1995	457,000	3,696,000	0.0020	2
Natural Gas	Annual	1996	457,000	3,696,000	0.0023	2
Natural Gas	Annual	1997	457,000	3,696,000	0.0020	2
Natural Gas	Annual	1998	457,000	3,696,000	0.0020	2

Existing Unit Fuel	Averaging Period	Data Period	Receptor Location (m)		Maximum Predicted Concentration ($\mu g/m^3$)	Class I PSD Increment ($\mu g/m^3$)
		Year	East	North		
Distillate Oil	Annual	1994	457,000	3,696,000	0.0083	2
Distillate Oil	Annual	1995	457,000	3,696,000	0.0086	2
Distillate Oil	Annual	1996	457,000	3,696,000	0.010	2
Distillate Oil	Annual	1997	457,000	3,696,000	0.0087	2
Distillate Oil	Annual	1998	457,000	3,696,000	0.0090	2

Table 74
Salt River Project
Proposed Expansion Project - Santan Generating Station
Summary of Proposed Compliance Methodologies - Title V Program

Affected Emission Unit	Applicable Requirement	Type of Requirement	Regulatory Citation	Specific Regulatory Requirement	Compliance Methodology	Future Compliant Methodology	Compliance Status
Facilitywide (Combined Cycle Combustion Systems only)	Acid Rain Regulations 40 CFR Part 75	General Operating Requirements	75.10, Rule 370, Article 3, R18-2-333	Measurement of all SO2, NOx, CO2 and opacity shall be measured for each affected unit.	SRP will measure SO2, NOx, and CO2 as stipulated in 75.10. Measurement of opacity will not be performed since natural gas combustion units are exempt from this requirement (40 CFR 75.14(c).	SRP will measure SO2, NOx, and CO2 as stipulated in 75.10. Measurement of opacity will not be performed since natural gas combustion units are exempt from this requirement (40 CFR 75.14(c).	SRP is aware of this requirement and will conduct the appropriate measurements. SRP will be in compliance with this requirement.
Facilitywide (Combined Cycle Combustion Systems only)	Acid Rain Regulations 40 CFR Part 75	General Operating Requirements	75.10(a)(1), 75.11(d) Rule 370, Article 3, R18-2-333	An SO2 continuous emission monitor shall be installed. Units burning natural gas may determine SO2 emissions by 1) measuring heat input with a gas flowmeter and using a default emission rate; 2) sampling and analyzing gas daily for sulfur an using the volume of gas combusted; or 3) using CEMs	SRP is proposing to determine SO2 emissions by measuring heat input with a gas flowmeter and using a default emission rate as specified in 40 CFR part 75, Appendix D, 2.3	Continue to determine SO2 emissions by measuring heat input with a gas flowmeter and using a default emission rate as specified in 40 CFR part 75, Appendix D, 2.3	SRP is aware of this requirement and will conduct the appropriate measurements. SRP will be in compliance with this requirement.
Facilitywide (Combined Cycle Combustion Systems only)	Acid Rain Regulations 40 CFR Part 75	General Operating Requirements	75.10(a)(2), 75.12(a) Rule 370, Article 3, R18-2-333	A NOx continuous emission monitor shall be installed	SRP is proposing to install a continuous NOx emission monitor and determine the NOx emission rate following the procedures specified in 40 CFR Part 75.12 (b).	Installation of a continuous emission monitor and determination of NOx emissions following the procedures specified in 40 CFR Part 75.12 (b).	SRP is aware of this requirement and will establish the appropriate NOx emission rate methodology. SRP will be in compliance with this requirement.
Facilitywide (Combined Cycle Combustion Systems only)	Acid Rain Regulations 40 CFR Part 75	General Operating Requirements	75.10(a)(3), 75.12(c) Rule 370, Article 3, R18-2-333	CO_2 emissions will be based on the measured carbon content of the fuel and the procedures in Appendix G of 40 CFR Part 75	SRP is proposing to determine CO_2 emissions by measuring the fuel flow following the methodology outlined in 40 CFR Part 75, Appendix G, 2.0.	Continue to determine CO_2 emissions by measuring fuel flow and using the methodology outlined in 40 CFR Part 75, Appendix G, 2.0	SRP is aware of this requirement and will establish the appropriate CO_2 emission rate methodology. SRP will be in compliance with this requirement.

Table 74
Salt River Project
Proposed Expansion Project - Santan Generating Station
Summary of Proposed Compliance Methodologies - Title V Program

Affected Emission Unit	Applicable Requirement	Type of Requirement	Regulatory Citation	Specific Regulatory Requirement	Compliance Methodology	Future Compliant Methodology	Compliance Status
Facilitywide (Combined Cycle Combustion Systems only)	Acid Rain Regulations 40 CFR Part 75	General Operating Requirements	75.10(a)(4), 75.12(c) Rule 370, Article 3, R18-2-333	Installation and operation of a continuous opacity monitor. Natural Gas fired units are exempt from the requirement to install and operate an opacity monitor.	SRP is exempt from the requirement of installing a continuous opacity monitor.	SRP is exempt from the requirement of installing a continuous opacity monitor.	SRP is exempt from the requirement of installing a continuous opacity monitor.
Facilitywide (Combined Cycle Combustion Systems only)	Acid Rain Regulations 40 CFR Part 75	Operation and Maintenance Requirements	75.20	Written notice of initial certification testing of CEM's installed and submission of a certification application.	SRP will follow the certification requirements outlined in 40 CFR 75.20	SRP will follow the certification requirements outlined in 40 CFR 75.20	SRP will follow the certification requirements outlined in 40 CFR 75.20. SRP will be in compliance with this requirement.
Facilitywide (Combined Cycle Combustion Systems only)	Acid Rain Regulations 40 CFR Part 75	Quality Assurance and Quality Control	75.21	Operation of the NOx CEM shall follow the quality assurance/control requirements contained in 40 CFR Part 75, Appendix B.	SRP will follow the procedures outlined in 40 CFR 75, Appendix B	SRP will follow the procedures outlined in 40 CFR, Appendix B	SRP will follow the procedures outlined in 40 CFR 75, appendix B. SRP will be in compliance with this requirement.
Facilitywide (Combined Cycle Combustion Systems only)	Acid Rain Regulations 40 CFR Part 75	Recordkeeping Requirements	75.50	Recordkeeping of specific information for each affected unit.	SRP will follow the recordkeeping procedures outlined in 40 CFR 75.50	SRP will follow the recordkeeping procedures outlined in 40 CFR 75.50	SRP will follow the procedures outlined in 40 CFR 75.50. SRP will be in compliance with this requirement.
Facilitywide (Combined Cycle Combustion Systems only)	Acid Rain Regulations 40 CFR Part 75	Reporting Requirements	75.60	Reporting of specific information for each affected unit.	SRP will follow the reporting procedures outlined in 40 CFR 75.50.	SRP will follow the reporting procedures outlined in 40 CFR 75.50.	SRP will follow the reporting procedures outlined in 40 CFR 75.50. SRP will be in compliance with this requirement.

Rule 320 §§ 300, 302, 304, 306, 306.2, 306.3, 306.4 (adopted 7/13/88) - Odors and Gaseous Air Contaminants
This rule states emission limitations for sulfur dioxide. The requirements not to emit more than 0.8 pounds of sulfur dioxide, maximum three hour average, per million BTU heat input is included in the permit. Also, requires burning of low sulfur oil, which is the fuel oil containing less than 0.9 % by weight of sulfur.
An appropriate condition is included in the permit to ensure compliance with these requirements.

Rule 330 §§305-307, 502, 503 - Volatile Organic Compounds
Even all the processes at the facility are covered by source specific rules, some requirements from Rule 330 is included in the permit (requirements referring to the control equipment are omitted from the permit conditions).

Rule 331 §§ 301, 302, 306, 307, 501 (adopted 6/19/96) - Solvent Cleaning
The solvent degreasing unit at this power plant is exempt from obtaining the permit, nevertheless the operating requirements from this Rule are incorporated in the permit. Also, requirements for the wipe cleaning procedure was included as a separated permit condition.

Rule 335 §§ 301 - 307 (adopted 7/13/88) - Architectural Coatings
This rule is applicable to all applications of architectural coatings.
An appropriate condition is included in the permit to ensure compliance with these requirements.

Rule 336 §§ 301,303,304, 305, 306.1, 306.5, 502, 502.1-4 (adopted 6/19/96) - Surface Coating Operations
This rule is applicable to all applications of Non-architectural coatings and limits the VOC content of these coatings.
An appropriate condition is included in the permit to ensure compliance with these requirements.

Rule 340 §§ 301, 302, 303, 501 (adopted 9/12/92) - Cutback and Emulsified Asphalt
An appropriate condition is included in the permit to ensure compliance with applicable requirements of this Rule. This rule is applicable to the road repair activities.

Rule 342 - Coating Wood Furniture and Fixtures
This rule is not applicable, since they do not manufacture any furniture

Rule 353 §§ 303.2, 502 (adopted 4/6/92) - Transfer of Gasoline into Stationary Storage Dispensing Tank

The rule requires that non-resale gasoline storage tanks with annual throughput less than 120,000 gallons have a submerged fill pipe. The rule also requires specific recordkeeping regarding the quantity of fuel delivered to the facility.
An appropriate condition is included in the permit to ensure compliance with these requirements.

Rule 370 §§ 301, 301.1, 301.8, 301, 303.3, 401 (adopted 5/14/97) - Federal Hazardous Air Pollutant Program
An appropriate condition is included in the permit to ensure compliance with applicable requirements of this Rule.

Rule 371 §§ 301 (adopted 4/3/96) - Acid Rain
This facility is exempt from Acid Rain provisions, since there are only turbines at the site.

Arizona Administrative Code

R18-2-703.C1 - The equation $E=1.02Q^{0.769}$, which represents limits for the particulate emissions, is included in the permit.
The calculations based upon AP-42 emissions data show that the facility would be unable to exceed this limit. Therefore, no testing is required in the permit for this rule as compliance is assured from the calculations.

R18-2-719.C1 - The equation $E=1.02Q^{0.769}$, which represents limits for the particulate emissions, is included in the permit.
The calculations based upon AP-42 emissions data show that the facility would be unable to exceed this limit. Therefore, no testing is required in the permit for this rule as compliance is assured from the calculations.

3. Emissions estimates from the facility.

POLLUTANTS	DAILY EMISSIONS LIMITS	12 MONTH ROLLING TOTAL EMISSIONS LIMITS
Nitrogen Oxides (NOx)	25 tons	8,990 tons
Carbon Monoxide (CO)	4.2 tons	1,519 tons
Sulfur Dioxide (SO_2)	18 tons	6,504 tons
Particulates (PM10)	2.2 tons	787 tons
Total Volatile Organic Compounds (VOCs)	1 ton	338 tons
Total Hazardous Air Pollutants (HAPs)	140 pounds	26 tons

2001 and added a request to install the carbon monoxide OX-ECS in each unit.

The low-NOx burners will reduce natural gas fired NOx emissions from approximately 0.30 lb/mmBtu (higher heating value) to approximately 0.08 lb/mmBtu (Base Load). The OX-ECS will reduce natural gas fired CO emissions from approximately 0.08 lb/mmBtu to 0.013 lb/mmBtu. No emissions reductions will be claimed should distillate oil be combusted under natural gas curtailment or other similar emergencies. The Project will not affect stack emission characteristics (i.e., flow rate, temperature, stack height).

SRP intends to use the emissions reductions achieved by the Project as Creditable Emission Reductions for netting calculations involving potential future unit emissions at the Santan Generating Station.

5. Emissions Summary

Three sets of emissions were calculated as part of this Significant Permit Revision: Baseline Actual Emissions, Future Potential Emissions, and Creditable Emissions Reductions. Baseline Actual Emissions are defined as the actual emissions occurring in the 24 month period preceding the decrease in emissions. Where the decrease is to take place in the future due to permitting requirements for the decrease, the 24 month period preceding the application is used. Since the DLN burner Project request was filed at a different date from the OX-ECS Project, there are two different baseline periods: July 1998 – June 2000 for the DLN Project and January 1999 – December 2000 for the OX-ECS Project. These periods are considered representative of normal operations prior to the decreases in emissions since the DLN project is currently under construction pursuant to a Minor Permit Revision application Number 8-4-00-01, submitted by SRP on August 4, 2000 and since this Significant Permit Revision requires construction of the OX-ECS to commence within 18 months of issuance of this Significant Permit Revision.

Table R-1 provides the natural gas fired emissions during the two baseline periods for the pollutants related to the period.

Note that SRP used the same heat rate for both Peak and Base Load. They did this since the number of hours at Peak Load (if any) in a given year are very small compared to Base Load. The SRP methodology slightly under-estimates emissions, and thus the permit limits were calculated with a conservatively low (more restrictive) method.

Although emission factors have been used to calculate the permitted emission limits, continuous emissions monitoring and source emission tests are required in order to monitor emissions and confirm that the emissions are less than the permitted amount (see Item 8 below).

The existing Title V permit does not place a limit on emissions (other than opacity and the general particulate permit limit) when combusting distillate oil, and no new limits will be placed on the facility when distillate oil is combusted. However, the Permit restricts SRP to combusting only natural gas once any equipment that used the Creditable Emission Reductions in netting calculations has been started up except for natural gas curtailment or other emergencies.

The Project will result in Creditable Emission Reductions of NOx and CO in the amounts shown in Table R-3, calculated as the difference between the Baseline Actual and Future Potential emissions.

Table R-3
Creditable Emission Reductions (tons per year)

Pollutant	Baseline Emissions (tons/yr)	Future Emissions (tons/yr)	Creditable Emission Reductions (tons/yr)
NOx	1,315	1,056	259
CO	386	174	212

These Creditable Emission Reductions may be used at the Santan Generating Station to net against future emissions increases only if the future increases are within a five year contemporaneous period.

These emission reductions may not be used as Emission Reduction Credits (ERCs) for offsetting emissions at other facilities because the reductions are not "surplus". This is due to the fact that the Maricopa County emission inventory contained in the latest Air Quality Management Plan included only a small amount of emissions from Santan (i.e., the Plan did not account for increased use of the Santan unit that occurred over the last few years).